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26875 7590 10/07/2008
WOOD, HERRON & EVANS, LLP
2700 CAREW TOWER
441 VINE STREET
CINCINNATI, OH 45202

EXAMINER	
THOMPSON, JAMES A	
ART UNIT	PAPER NUMBER

2625
DATE MAILED: 10/07/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/39,932	08/27/2001	Gary Russell	PHOT702	4043
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TITLE OF INVENTION: SYSTEM FOR HALF-TONE SCREEN PRODUCTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/07/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail

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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE-FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/39,932 08/27/2001 Gary Russell

PHOT/02

4043

TITLE OF INVENTION: SYSTEM FOR HALF-TONE SCREEN PRODUCTION

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	01/07/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
THOMPSON, JAMES A	2625	358-003090

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/147; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

1

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2

3

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

THOMPSON, JAMES A

ART UNIT

PAPER NUMBER

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DATE MAILED: 10/07/2008

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 428 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 428 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

09/939,932

Examiner

James A. Thompson

Applicant(s)

RUSSELL, GARY

Art Unit

2625

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 18 August 2008.
2. ☒ The allowed claim(s) is/are 1-5, 7-27, 30, 33-37, 39-48, 50-57 and 59-75.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Edward L. Coles/
Supervisory Patent Examiner, Art Unit 2625

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In claim 26, line 8: **change** "store on said halftone screen" **to** "store said halftone screen".

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 20-22, filed 18 August 2008, with respect to the claim rejections and objections have been fully considered and are persuasive. The objections to and rejections of the claims have been withdrawn. Applicant's amendments obviate the claim objections and rejections set forth in the previous office action of 17 April 2008. An Examiner's amendment is set forth above to correct a simple clerical error in claim 26.

Allowable Subject Matter

2. Claims 1-5, 7-27, 30, 33-37, 39-48, 50-57 and 59-75 are allowed.

The following is an examiner's statement of reasons for allowance:

Claim 1 recites a halftoning method including determining an overlap of two dots in the same halftone screen, and overlapping the two dots such that in substantially all halftone cells the narrowest width of any ink-bearing portion of each halftone cell is no greater than approximately 30% of the width of the halftone cell. This provides overlapping dot growth patterns, such as shown in figures 3 and 4A-4H of the specification. "Substantially all halftone cells" is interpreted to mean all but the small percentage of saturated or near-saturated gray scale values which are not physically capable of having a halftone cell in which the narrowest width of any ink-bearing portion is no greater than approximately 30% of the width of the halftone cell. This arrangement of overlapping halftone dots has the advantage of distributing the ink during printing so as to effectively and accurately reproduce the desired gray scale values. By arranging the ink distribution in the recited manner, during actual physical printing on a paper medium, the ink does not overlap as much as in more common types of halftoning resulting in improved tonal reproduction characteristics. Also, during actual physical printing on a non-porous medium, there is more even distribution of the ink, especially in darker tones, which results in better tonal reproduction characteristics and a sharper printed image.

The closest prior art discovered is Sugizaki (USPN 6,975,431 B1). Sugizaki applies three basic patterns to produce a halftone cell (see, e.g., figures 8-9 of Sugizaki), but these patterns are not overlapped in such a way that the narrowest width of any ink-bearing portion is no greater than approximately 30% of the width of the halftone cell, as specifically done by the method of claim 1.

Examiner has found no prior art which fully teaches the method of claim 1. Accordingly, claim 1 is deemed allowable over the prior art. Claims 2-5, 7, 42, 65 and 66 are deemed allowable due to their respective dependencies from claim 1.

Claim 8 recites a method which is deemed allowable for substantially the same reasons as claim 1. Claims 9-13 and 43 are deemed allowable due to their respective dependencies from claim 8.

Claim 14 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same properties as that produced by the method of claim 1. Thus, claim 14 is deemed allowable for substantially the same reasons as claim 1. Claims 15-19 and 73 are deemed allowable due to their respective dependencies from claim 14.

Claim 20 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 20 is deemed allowable for substantially the same reasons as claim 1. Claims 21-25 and 74 are deemed allowable due to their respective dependencies from claim 20.

Claim 26 recites a raster image processor which executes a program which generates and stores a halftone threshold array having the properties which are deemed allowable in claim 1. Therefore, claim 26 is deemed allowable for the same reasons as claim 1.

Claim 27 recites a program product comprising a computer-readable medium bearing a program that is executable by a processor. The program thus executed performs steps that have the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 27 is deemed allowable over the prior art.

Claim 30 recites a program product comprising a computer-readable medium bearing a program that is executable by a processor. The program thus executed performs steps that have the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 30 is deemed allowable over the prior art.

Claim 33 is a method of creating a printing plate which contains and uses a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 33 is deemed allowable for substantially the same reasons as claim 1. Claims 34-37 and 50-54 are deemed allowable due to their respective dependencies from claim 33.

Claim 45 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the

method of claim 1. Thus, claim 45 is deemed allowable for substantially the same reasons as claim 1. Claims 71 and 72 are deemed allowable due to their respective dependencies from claim 45.

Claim 46 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 46 is deemed allowable for substantially the same reasons as claim 1.

Claim 47 is a printing system with an image setter which utilizes a halftone screen with the same properties that are deemed to distinguish over the prior art as those of the halftone screen recited in the method of claim 1. Thus, claim 47 is deemed allowable for substantially the same reasons as claim 1.

Claim 48 recites a program product comprising a computer-readable medium bearing a program that is executable by a processor. The program thus executed performs steps that have the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 48 is deemed allowable over the prior art. Claim 61 is deemed allowable due to its dependency from claim 48.

Claim 60 recites a method which is deemed allowable for substantially the same reasons as claim 1. Claims 62-64 are deemed allowable due to their respective dependencies from claim 60.

Claim 67 is a printing plate with a printing and non-printing surface. The printing surface contains a halftone screen with the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 67 is deemed allowable for substantially the same reasons as claim 1. Claims 39-41, 44, 55-57 and 59 are deemed allowable due to their respective dependencies from claim 67.

Claim 68 recites a raster image processor which executes a program which generates and stores a halftone threshold array having the properties which are deemed allowable in claim 1. Therefore, claim 68 is deemed allowable for the same reasons as claim 1. Claims 69 and 70 are deemed allowable due to their respective dependencies from claim 68.

Claim 75 recites a program product comprising a computer-readable medium bearing a program that is executable by a processor. The program thus executed performs steps that have the same recited properties that are deemed to distinguish over the prior art, such as produced by the method of claim 1. Thus, claim 75 is deemed allowable over the prior art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Thompson whose telephone number is (571)272-7441. The examiner can normally be reached on 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward L. Coles can be reached on 571-272-7402. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward L. Coles/
Supervisory Patent Examiner, Art Unit 2625

/James A Thompson/
Examiner, Art Unit 2625

22 September 2008